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Rectal Carcinoma and Five Year Survival with the Abdomino-perineal Resection

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Rectal Carcinoma and Five Year Survival with the Abdomino-perineal Resection

The earliest surgical approach to the problem of rectal cancer was an attempt in 1739 by *Paget* at resection. The patient died. It wasn't until a hundred years later that *Lisfranc* performed the first successful rectal resection. This was the beginning but there were medical men of the 1860's who said, «This habit of performing excision of the lower part of the rectum is both barbarous and unscientific.» In 1877 Sir James *Paget*, at the time considered an expert in the field of cancer, and an adversary of operative intervention said, «The number of cases in which cancer does not recur after operation is one in 500». ²³

This paper shows the fate of 88 patients with rectal cancer who were admitted to the surgical wards of the Burgerspital from 1945 through 1949. Cancer is the second greatest killer of man today. One sixth of these deaths are caused by rectal and large bowel lesions. There has been a continuous struggle to bring the facts before the public and today as never before the man on the street has become cancer conscious. The past fifteen years has seen the dawn of a new era for many of our maladies, but we are still dependent on surgery as the only effective cure for neoplasms of the terminal intestine. Even surgery can be of little help if the lesion is not recognized early and removed as quickly as possible. *Collier*¹⁰ points out that improvement in the results with the available techniques must come through diagnosis at a time when the lesion is still within the scope of treatment, through the utilization of surgical means which have proved most effective.

Material and Methods.

Eighty eight consecutive patients were taken from the surgical records of the Burgerspital from the years 1945 through 1949. In all the diagnosis of rectal carcinoma had been proved. The case histories were reviewed and the following noted: date of admission;

sex; age at operation (or at the time of admission); operative diagnosis; surgeons opinion at the time of operation as to chance of cure by operative removal of the tumor; type of operative procedure; location of lesion; evidence of metastasis and location; pathology reports and special comments as not recorded above.

All patients were sent letters to the last known address, inquiring about their present state of health. For those who could not be located through the mail, the physician to whom the patient had been discharged was contacted by telephone. It is the policy in the local clinic to discharge all patients back to the physician who requested admission and it is usually he who does the follow-up. The remaining patients who could not be located in this manner were traced through the department of records of the respective county. Information regarding deceased patients was obtained from next of kin, the attending physician, and/or the pathology report.

All but one of the 88 patients were located. For the sake of the statistics we will consider her deceased.

Results.

Table I shows the distribution of the 88 patients through the years covered.

Table I

year : 1945	1946	1947	1948	1949
number of cases : 17	15	18	23	15

98 percent of the patients were followed up in periods ranging from six to eleven years. The six, seven, and eight year follow-ups were from the years 1949, '48 and '47 respectively. Upon entering the hospital the average age of the patients was 62.5 years. The oldest patient was 78 and the youngest 34 years old. Table II shows the age incidence, with percentages for each group.

Table II

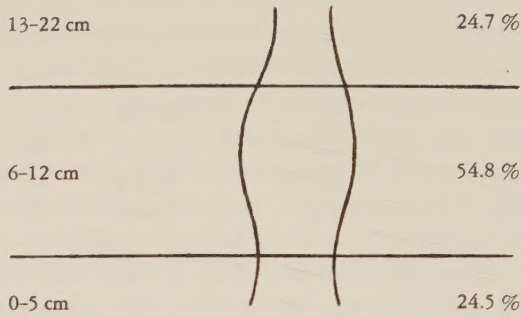
Age in years	No.	%	Age in years	No.	%
0-34	1	1.1	55-59	10	11.3
35-39	1	1.1	60-64	17	19.3
40-44	2	2.2	65-69	25	28.4
45-49	7	7.9	70-74	12	13.7
50-54	6	6.8	75-79	7	7.9

38 percent of the patients were women and 62 percent men. This is a similar ratio found in other papers.⁹ Forty (45%) of the total number of admissions had multiple metastases and were not considered candidates for radical operative procedures. Treatment carried out for the whole group was as follows:

- 33 abdomino-perineal resections
 - 1 end-to-side anastomosis
- 32 colostomies or sigmoidostomies
 - 1 coecostomy
 - 1 colostomy with X-ray therapy
 - 5 sigmoidostomies with electrocoagulation of the tumor
 - 2 local excisions
- 10 refused operative therapy
 - 3 the condition of the patient so poor on entry that no surgical measures were undertaken before exitus.

Figure I shows the anatomical distribution of the tumors in the entire group of patients. The divisions of 0 to 5 cm., 6 to 12 cm., and 13 to 22 cm., has been suggested by *Dunning*¹² and *d'Allaines*¹¹. These are the distances from the external sphincter to the tumor, measured digitally and with the rectoscope. A comparison is than made of the two. Mayo²⁰ reports that 64% of the tumors are within reach of the finger. *Leita's* figures are even higher.¹⁹

Figure I



There were 33 abdomino-perineal (*Miles*) and one, end-to-side anastomosis. The one end-to-side anastomosis attempted during the period of this survey showed no evidence of metastases at the time of the resection and lived three years and two months after surgery. Table III shows the number of *Miles* operations performed during each year.

Table III

year : 1945	1946	1947	1948	1949
number of cases : 8	7	3	8	7

The average age of patients undergoing the abdomino-perineal operation was 58 years. Two were under 36 and three were over 70 years. The 34 year old patient lived one year and seven months after operation, the 36 year old expired post-operatively and at autopsy showed widespread metastasis. One 74 year old patient lived four years after resection, the other two were post operative deaths.

1945— 8 cases, three expired of post operative complications, three within two years of metastasis (all cases autopsied). Two patients were alive after ten years.

1946— 7 cases, one post operative death, three died in the following two to three years (autopsy of two showed metastasis). Three were still living after ten years.

1947— 3 cases, two post operative deaths, one patient alive after 8 years and 10 months.

1948— 8 cases, one post operative death (autopsy: pulmonary emboly), 4 died within one to two years after surgery, one after 4 years at the age of 78, and two are still living after 8 years.

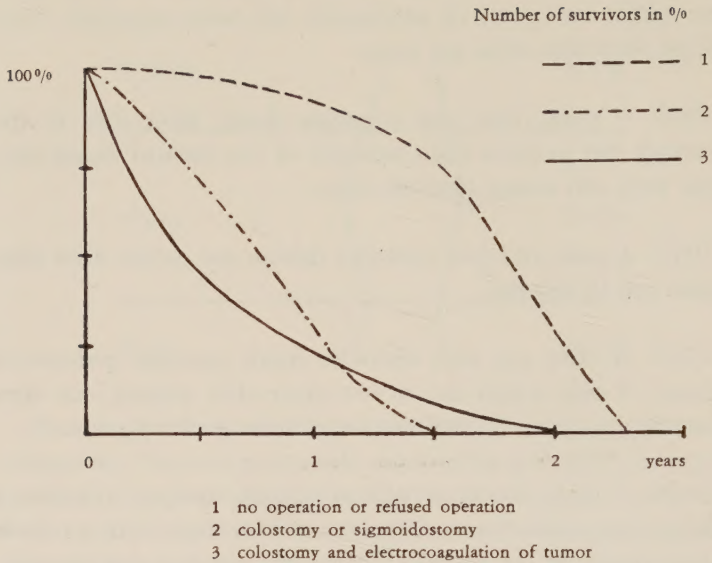
1949— 7 cases, one post operative death (autopsy: pulmonary emboly), one patient lost to follow-up and for the statistical records will be considered among the nonsurvivors, one died after one year, and 4 were alive after six years.

The above gives an over all survival rate of 48% for the entire group for 5 and 6 years, if the post operative deaths are excluded, and 37% for 8 years (cases 1945 to 1948). Five of the 15 patients operated during 1945 and 1946 are still alive. The post operative mortality for the radical resections was 23% for the five year period. In the last two years (1948 and 1949) the post operative mortality fell to 6.6%.¹

Thirty four patients were given palliative treatment in the form of colostomy or sigmoidostomy. Graph I shows the survival rate in percent of survivors after this procedure. There were five colostomies with electrocoagulation of the tumor. All but one of these patients was classed as inoperable at laparotomy. One patient died within four months, the other four within 18 to 22 months. Graph I.

Of the ten cases that refused operative therapy or abdomino-perineal amputation, four were alive after 1 year and the final survivor died after two years and two months.

Graph I.



Two patients showed malignant tissue when biopsied. At exploration no neoplastic growth could be found. One patient was alive after 10 years, the other died after 7 years, which proved at autopsy not to be metastases.

Seventy three patients were biopsied and eight of the pathology reports showed no tumor tissue present (9.1%). Most of the tissue without neoplastic growth showed inflammation and foreign body reaction. A repeat biopsy proved some cases, in the others positive diagnosis was made at laparotomy.

Discussion.

The abdomino-perineal operation was described by W. E. Miles almost half a century ago.²¹ There have been many who have been opposed to it and numerous modifications have been used. Today the original one-stage operation²² with the addition of a more

through dissection of the lymph nodes is the operative procedure of choice in most hospitals. Early criticism of the procedure was based on the high operative mortality. *Lockhart-Mummery* in 1914 presented the «perineal method of excision». This is not usually suitable for higher lesions and is not very popular today. The French Surgical Congress of 1925 saw the presentation of a group of three year cures with an average of 13%. The three year cure by the coccygeal route was 24%.²³ Superior methods in anesthesia, pre-operative work-up and antibiotics have decreased the operative risk.¹⁵ The figures in the present paper show a relatively high post operative mortality in the early years after the war. Antibiotics in sufficient quantity first became available in Switzerland during the last year and a half covered by this survey. The post-operative mortality then fell to 6.6%. Similar figures have been published by *Cattell* and others.⁷

Fifty percent of the patients operated on were over 65 years of age (Table II) and 19 (21.6%) were over 70. With the augmented life expectancy of the overall population, a steadily increasing number of patients with carcinoma is to be expected. *Cattell* in his paper «Carcinoma of the rectum at advanced age»⁷ states that the abdomino-perineal operation can be carried out in a select group of patients who are reasonably active for their age. He claims that there is an operative mortality of between 25 to 30%. According to this author, «The aim of the operation should be to relieve the patient from the symptoms and to provide comfort rather than prolong life».⁷

This same principle of providing comfort to the patient might be applied to those patients who enter the hospital in the advanced stages of the disease. As stated 40 (45%) of the 88 patients were classed as unsuitable for the abdomino-perineal method because metastases were already present in the liver and other organs. *Welch* and *Gidding* report that nearly two-thirds of the patients with carcinoma of the colon and rectum are incurable at the time they reach the hospital.^{27, 6} In the past few years there has been a tendency in the Burgerspital to submit more and more of the most advanced cases to radical operation. I am advised that 80 to 90% of the patients

admitted today to the clinic with carcinoma of the rectum (all levals), are given radical treatment, excision consisting of as much of the neoplastic tissue as possible.

Whether the patients subjected to this treatment live appreciably longer than those receiving a colostomy is still questioned by some but terminal pain is certainly less in those who have had the tumor removed.⁶

In the light of the ever decreasing post operative fatalities it would seem that if there is to be a reduction in the number of deaths from rectal carcinoma it will have to come from earlier diagnosis.^{15, 8} Eight of the nine patients alive 8 to 10 years after *Miles* resection showed no lymphatic or local metastasis at operation. The diagnosis by the practitioner was quickly followed by radical operation. The two patients aged 34 and 36 were diagnosed in what seemed at the time early enough and operated radically. In both widespread metastases were present at autopsy. Carcinoma in the younger individual seems to be more rapidly fatal but by no means uncommon.¹³

All methods of radical excision performed today fall into one of three types. I. Excision from below (*Kraske*, perineal), II. Excision from within the peritoneal cavity only, III. A combined abdominoperineal excision (*Miles* or some variant thereof).²³

The sphincter-saving operations have become increasingly popular with some surgeons. They fall into three main groupes.¹⁷ A. The low anterior resection (*Dixon* and *Wagensteen*²⁵). B. The evagination-amputation-suture invagination anterior resection (*Maunsell* and *Weir*). C. The pull-through operation (*Babcock*² and *Bacon*³).

The case histories show that the objection of most patients to operation was the permanent colostomy.⁵ Most patients became well adapted if they were not too advanced in age at the time of operation. Is the risk of recurrence greater with the preserved sphincter than with amputation? The surgeons who have perfected themselves in one of the three sphincter saving operations claim that it is not and have published five and ten year reports in support of their stand.^{4, 14, 16} *Labey*¹⁷ and others²⁶ take opposition to this point and write «Anterior resection is contraindicated for lesions below the

peritoneal reflection; doubt is expressed regarding its wisdom for other lesions. No sphincter preserving operation offers as good a chance for cure as does the *Miles* operation». ¹⁷

Nearly all seem to agree that for lesions of the lowest part of the rectum the *Miles* operation is still the one of choice.

Radiation therapy has never offered the sufferer with rectal carcinoma too much hope. ¹⁹ X-ray and radium have been used for lesions of the anal canal and this procedure is still used by some. *Larru* ¹⁸ treated 72 patients, with diagnosed rectal carcinoma by Contact X-ray therapy and reported good results. 53% three to five year cures and 61.3% if only the last period of his statistics are considered. Most of the tumors were in the advanced stages and some showed pelvic or abdominal metastases when treatment commenced. *Parturier-Lannegrace* ²⁴, in a similar article proposes a possible combination of X-ray contact therapy with a later operation (abdominal).

In Basel, there has been no experience with X-ray contact therapy for carcinoma of the rectum. The one case treated with the usual X-ray therapy in this study, was a 49 year old male with an inoperable lesion at 14 cm. He also had an active tuberculosis of the lungs. Survival was eight months.

Conclusion.

The years 1945–1949 show a five year survival after abdomino-perineal resection of 48%, which compares favorably with other reports. If we are to see an appreciable fall in deaths from rectal carcinoma it must come from earlier diagnosis. The patients chances of survival are inversely proportional to the length of time elapsing from the onset of the disease to the time of surgery. Most rectal tumors are within reach of the examining finger. There is no real cancer age for the disease and every age group is attacked. The choice of operation remains for the surgeon to decide. Whether a sphincter preserving technique is used or the *Miles* operation, five

and ten year survival will depend upon the amount of neoplastic tissue removed and how far the metastasis have advanced. In late recognition the patients terminal existence can be made more bearable by resection of the tumor. A negative biopsy doesn't always mean a patient is free of rectal cancer.

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